

REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-7 are pending in the application. No claim amendments are presented, thus no new matter is added.

In the outstanding Official Action, Claims 1-2 and 5-6 were rejected under 35 U.S.C. § 103(a) as unpatentable over Komatsu (U.S. Pub. No. 2001/002146) in view of Fukunishi (U.S. Pub. No. 2001/0052889); and Claims 3-4 and 7 were rejected under 35 U.S.C. § 103(a) as unpatentable over Komatsu in view of Fukunishi and in further view of Kim et al. (U.S. Pub. No. 2004/0263755, hereinafter “Kim”).

The Official Action rejected Claims 1-2 and 5-6 under 35 U.S.C. § 103 as unpatentable over Komatsu in view of Fukunishi. Applicants respectfully submit that independent Claim 1 states novel features clearly not taught or rendered obvious by the applied references.

Independent Claim 1 relates to a liquid crystal display device having a capacitor terminal placed opposite to a capacitor electrode and which is connected to a pixel electrode. **A drain electrode is electrically connected to the capacitor terminal through the pixel electrode** and the pixel electrode includes **at least two voltage supply paths to the capacitor terminal**. Thus, the claimed liquid crystal display device is capable of supplying a voltage to a capacitor terminal to generate the necessary capacitance in the occurrence that a pixel electrode connection is disconnected.

An exemplary non-limiting example of the display device, as depicted in Fig. 1 of the specification, shows a pixel electrode (4) connected to a capacitor terminal (12) at least twice via a plurality of connection holes (6). Further, a drain electrode (11) is connected to the capacitor terminal (12) through the pixel electrode (4).

The requirements for a *prima facie* case of obviousness are (1) there must be some suggestion or motivation in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine the reference teachings, (2) there must be a reasonable expectation of success, and (3) the prior art reference must teach or suggest all the claim limitations. It is respectfully submitted that the applied references fail to make a *prima facie* case of obviousness, because neither Komatsu nor Fukunishi, alone or in combination, teach or suggest all the claim limitations.

Amended, Claim 1 recites, *inter alia*, a liquid crystal display device comprising:

...a drain electrode electrically connected to the capacitor terminal through the pixel electrode...

The outstanding Official Action admits that the primary reference, Komatsu, “lacks disclosure” of “a drain electrode electrically connected the capacitor terminal through the pixel electrode”.¹ In an attempt to cure the above noted deficiency in Komatsu, the Official Action relies on Fukunishi, and states that this reference “discloses... a drain electrode (5) electrically connected to the capacitor terminal (5a) through the pixel electrode (7)”.²

Applicants respectfully traverse this assertion.

As shown in Fig. 4, Fukunishi describes a liquid crystal display panel (30) having a connection electrode (5a) which is one of two electrodes formed on an extension portion of a drain electrode (5) disposed above a capacitance electrode (11a).² On an upper side of the connection electrode (5a), a contact hole (6a) is provided allowing pixel electrode (7) to be in contact with the connection electrode (5a). Fukunishi also describes that a drain branch thin line portion (32) branches off from the drain thin line portion (31) which is extended from the drain electrode (5). Thus, the pixel electrode (7) has two connections, one of which is a

¹ Outstanding Official Action, p. 3.

² Fukunishi ¶ [0124], and Fig. 4.

connection with the connection electrode (5a) through the contact hole (6a) and the other is a connection with the branch-side connection electrode (33) through the contact hole (6d).³

Thus, in Fukunishi's configuration, the capacitor terminal (5a) is connected directly to the drain electrode (5), and the pixel electrode (7) is connected to the capacitor terminal (5a). Specifically, the capacitor terminal (5a) is located between the drain electrode (5) and the pixel electrode (7) and the drain electrode is not electrically connected to the capacitor terminal *through the pixel electrode*, as recited in amended Claim 1.

As depicted in an exemplary, non-limiting embodiment, Fig. 1 of the specification shows the drain electrode (11) connected to the capacitor terminal (12) *through* the pixel electrode (4). As stated above, Fukunishi fails to teach or suggest this claim feature, but instead describes an apparatus wherein the capacitor terminal (5a) is located between the drain electrode (5) and the pixel electrode (7).

Thus, Fukunishi fails to teach or suggest "*a drain electrode electrically connected to the capacitor terminal through the pixel electrode*", as recited in independent Claim 1.

Further, Claim 1 recites, *inter alia*, a liquid crystal display device comprising:

... a capacitor terminal placed opposite to the capacitor electrode...
the pixel electrode *comprises at least two voltage supply paths to the capacitor terminal*.

The outstanding Official Action properly admits that Komatsu fails to teach or suggest the above-noted claimed feature. In an attempt to cure this deficiency in Komatsu, the outstanding Official Action relies on Fukunishi, specifically citing Figs. 2 and 4, and paragraph [0151].

As discussed in detail above, Fig. 4 of Fukunishi describes that the pixel electrode (7) has two connections, one connection with the connection electrode (5a) through the contact hole (6a) and another connection with the branch-side connection electrode (33) through the

³ Fukunishi ¶ [0128], and Fig. 4.

contact hole (6d). Thus, Fukunishi describes that the pixel electrode (7) is connected to two separate connection electrodes, each via a single path. At no point does Fukunishi, teach or suggest that the pixel electrode (7) includes ***at least two voltage supply paths to the capacitor terminal***, as recited in Claim 1. Instead, the pixel electrode of Fukunishi includes a plurality of connections each to one of two different capacitor terminals, one being connection electrode (5a), the other to branch-side connection electrode (33).

The outstanding Official Action also cites Fig. 2 as disclosing the above noted claimed feature. As an initial matter, Applicants wish to note that Fig. 2 corresponds to the “first embodiment” of Fukunishi’s system, which is also depicted in Fig. 1 and is a completely different structure than “embodiment two” depicted in Fig. 4 and cited in the outstanding Official Action in addressing various features recited in Claim 1. Accordingly, Applicants respectfully submit that a rejection based on two distinct embodiments of a reference is improper, and thus Applicants traverse the rejection on this ground.

Nonetheless, Fig. 2 shows that the pixel electrode (7) includes a single connection to two individual connection electrodes (5a and 5b), and fails to teach or suggest that the pixel electrode (7) includes ***at least two voltage supply paths to the capacitor terminal***, as recited in Claim 1. Further, the “first embodiment” of Fukunishi (Figs. 1 and 2) fails to teach or suggest ***a drain electrode electrically connected to the capacitor terminal through the pixel electrode***, also a feature recited in independent Claim 1.

Accordingly, Applicants respectfully request that the rejection of Claim 1 under 35 U.S.C. § 103 be withdrawn. As Claims 2 and 5-6 depend from Claim 1, Applicants respectfully submit that these claims also patentably define over Komatsu and/or Fukunishi.

In the outstanding Official Action, Claims 3-4 and 7 were rejected under 35 U.S.C. § 103(a) as unpatentable over Komatsu in view of Fukunishi and in further view of Kim. Applicants respectfully traverse this rejection.

As discussed above, Komatsu, neither alone nor in combination with Fukunishi, teach nor suggest the above noted features recited in independent Claim 1. Likewise, Kim does not remedy this deficiency, and therefore, none of the cited references either alone or in combination teach or suggest Applicants' Claims 3-4 and 7 which include the above distinguished limitations by virtue of dependency. Therefore, the Official Action does not provide a *prima facie* case of obviousness with regard to any of these claims.

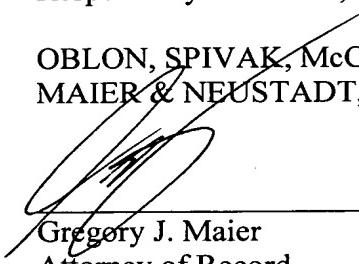
Accordingly, Applicants respectfully request the rejection of Claims 3-4 and 7 under 35 U.S.C. § 103 be withdrawn.

Consequently, in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-7 is patentably distinguishing over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Should the above distinctions be found unpersuasive, Applicants respectfully request that the Examiner provide an explanation via Advisory Action pursuant to MPEP § 714.13 specifically rebutting the points raised herein for purposes of facilitating the appeal process.

Respectfully submitted,

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